Summer Work Packet for MPH Math Classes

Students going into Pre-algebra
Sept. 2022

Name: _____

Hello Students!

This packet is designed to help students stay current with their math skills.

Each math class expects a certain level of number sense, algebra sense, or graph sense to be successful in the course.

These problems need to be completed in the space provided, or a separate sheet of paper, prior to the start of school. Be sure to show all work. We will check this assignment in class. Remember, it's about the process, not just the answer.

Please try to pace yourself throughout the summer. Completing 5 problems every week is a nice way to work through the packet. I have included a Resource at the end of the packet to help you.

Have a wonderful summer, and we look forward to seeing you in the fall!

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** You will need a TI-84 calculator for this class.**

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Adding Fractions **Name _____**

1. $2\frac{1}{6}+3\frac{5}{6}=$

2. $6\frac{3}{8}$
$+2\frac{3}{32}$

3. $4\frac{7}{12}$
$+1\frac{5}{8}$

Subtracting Fractions

4. $\frac{17}{21}-\frac{8}{21}=$

5. $6\frac{7}{10}$
$-3\frac{4}{5}$

6. $4\frac{2}{9}$
$-3\frac{1}{6}$

Multiplying fractions **Name _____**

7. $\frac{2}{3} \times \frac{1}{2} =$

8. $18 \times \frac{4}{27} =$

9. $2\frac{2}{27} \times 3\frac{3}{8} =$

10. $\frac{42}{35} \times \frac{10}{21} =$

Dividing fractions **Name _____**

11. $\frac{27}{4} \div \frac{18}{5} =$

12. $18 \div \frac{54}{7} =$

13. $6\frac{3}{4} \div 5\frac{5}{9} =$

14. $6\frac{3}{16} \div 18 =$

Prime Factorization **Name _____**

Use a ***factor tree*** to find the prime factors of each number.

15. 120

16. 75

17. 98

18. 64

Decimals **Name _____**

Fill in the blank with >, < or = to make a true statement that compares the following decimals.

19. 3.230 _____ 3.23

20. 2.1 _____ 1.25

21. 35.9 _____ 35.896

Round each to the nearest whole number.

22. 6.3 _____

23. 45.7 _____

24. 98.5 _____

Round each number to the nearest tenth.

25. 10.38 _____

26. .418 _____

27. 9.99 _____

Round each number to the nearest hundredth.

28. 0.4508 _____

29. 4.782 _____

30. .7859 _____

Decimals **Name _____**

Adding

31. 1.234 + 62.3 + 32.32

Subtract.

32. 16.469 – 2.49

Multiply.

33. 4.57 × 8.3

34. 234.56 × 1000

Divide. **Name _____**

35. 71.25 ÷ 7.5

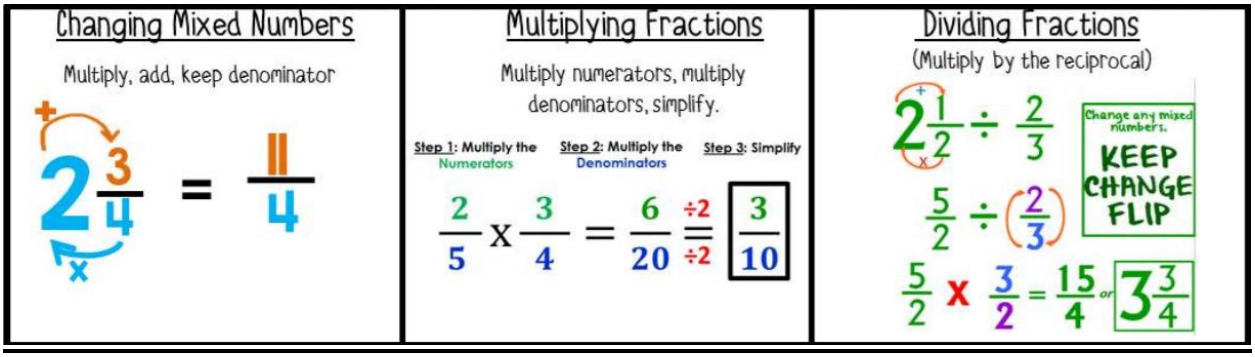
36. 6308 ÷ 7.6

Find <u>a) the perimeter</u> and <u>b) the area</u> of the shape.

37. A rectangle with width 4 and length of 12.
(Perimeter- add all sides or P = 2l + 2w)
(Area- Side x adjacent side or A = LxW)

Reference Sheet

Fractions



Notes: When you are multiplying or dividing fractions, you do not need a common denominator. You do have to change any whole number or mixed number to an improper fraction (shown above). Be sure to state the final fraction in simplest form.

adding fractions

You need a common denominator

$5\frac{1}{4}+2\frac{2}{6}=$ $\quad 5\frac{1\times3}{4\times3}+2\frac{2\times2}{6\times2}=$ $\quad 5\frac{3}{12}+2\frac{4}{12}=$ $\quad 7\frac{7}{12}$

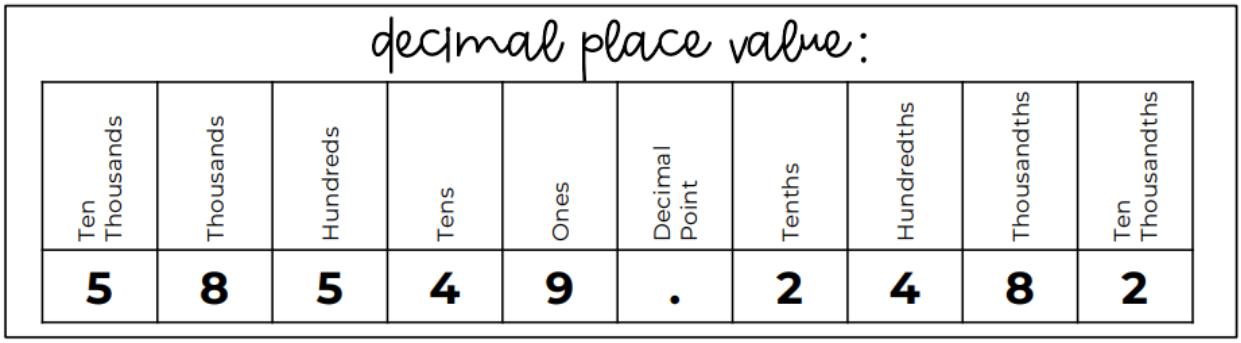
subtracting fractions

You need a common denominator

$5\frac{2}{3}-3\frac{1}{2}=$ $\quad 5\frac{2\times2}{3\times2}-3\frac{1\times3}{2\times3}=$ $\quad 5\frac{4}{6}-3\frac{3}{6}=$ $\quad 2\frac{1}{6}$

Notes: You can add or subtract fractions horizontally (across) or vertically (up and down). The process is the same. You always need a common denominator to add or subtract fractions.

Decimals



Rounding decimals

Round 549.2482 to the nearest tenth

549.2482

any number below 5 keeps the place value the same.

549.2

Comparing decimals

549.2482 _____ 549.2470

Compare the numbers in the same place values from left to right. 8 > 7

549.2482 > 549.2470

Adding & Subtracting Decimals

$$\begin{array}{r} 2.75 \\ +4.30 \\ \hline 7.05 \end{array} \qquad \begin{array}{r} 9.20 \\ -3.45 \\ \hline 5.75 \end{array}$$

LINE UP the decimals!

(Add zeros if necessary)

Multiplying Decimals

$$\begin{array}{r} 2.75 \\ \times \quad 4.3 \\ \hline 825 \\ +1100 \\ \hline 11.825 \end{array}$$

Count the decimal places and place it in the product.

(No need to line up)

Dividing Decimals

$0.02\overline{)3.80}$ $\qquad$ $2.\overline{)380}$

Can't have decimal in the 2nd number (or outside "house") move it → in both numbers!

Notes: When we add or subtract, we line up the decimals and go straight down. When we multiply, we multiply as normal, then count the decimal places to find where the decimal should go. When we divide, we move the decimal first, then bring it straight up.

Prime Factorization

A prime factor is a number that has exactly 2 factors, 1 and itself.

Example: Use a factor tree to find the prime factors of 360.

360

36 x 10

4 x 9 x 2 x 5

2 x 2 x 3 x 3 x 2 x 5

$= 2^3 \cdot 3^2 \cdot 5$

Note: Not all trees will look the same, but your final answer will.

360

36 x 10

6 x 6 x 2 x 5

2 x 3 x 2 x 3 x 2 x 5

$= 2^3 \cdot 3^2 \cdot 5$